

ABSTRACT

A novel process for continuously mixing and reacting at least two fluids are disclosed. Excellent mixing and superior pressure drop characteristics are achieved using cyclone mixing where at least two supply channels feed a mixing chamber to
5 create a vortex of the fluids to be mixed. The alignment of the supply channels is such that fluids are introduced into the chamber at both tangential and radial directions. In the case of gas/liquid mixing, particularly advantageous is the injection of the liquid stream tangentially and the gas stream radially. Reaction of the fluids can take place within the mixing chamber or in a separate reactor in fluid communication with the
10 mixing chamber outlet. The process is especially useful for reacting potentially explosive mixtures of reactants where a homogeneous reactor feed mixture is critical to maintaining a non-explosive environment.